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#### **ABSTRACT**

The objective of this research was to determine the feasibility of developing a functionally oriented General Educational Development (GED) program. To obtain information about problems of adaptation common to undereducated men, and to obtain information about knowledges and skills such men may not have, an achievement test/attitude questionnaire was administered to a large group of enlisted men. The instrument was designed to assess men's attitudes and skills with respect to financial, health, insurance, legal, and interpersonal problems. Men who took the test ranged in education level from less than 8 years to over 16 years. Higher educated men performed significantly better on the achievement test than did lower educated men, but high school dropouts (education level 9-11 years) consistently scored lowest of all. When attitude scale items were categorized as reflecting good vs. poor attitudes, poor attitudes decreased as education level rose. The results showed a strong correlation between errors on the achievement test and percentage of poor attitudes. (Author)

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William H. Melching, David Orme-Johnson, Pau' G. Whitmore, and William J. Given

HUMAN RESOURCES RESEARCH ORGANIZATION 300 North Washington Street • Alexandria, Virginia 22314

Approved for public release; distribution unlimited.

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Prepared for

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HumRRO Division No. 5 Fort Bliss, Texas

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The Human Resources Research Organization (HumRRO) is a nonprofit corporation established in 1969 to conduct research in the field of training and education. It is a continuation of The George Washington University Human Resources Research Office. HumRRO's general purpose is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation. HumRRO's mission in work performed under contract with the Department of the Army is to conduct research in the fields of training, motivation, and leadership.

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

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## **FOREWORD**

This report describes the results of research undertaken by the Human Resources Research Organization as part of Exploratory Research 83. The objective of ER-83 was to determine the feasibility of developing a functionally oriented General Educational Development (GED) Program for the Army. The research effort described in this report was undertaken to obtain information that will facilitate the attainment of the overall research objective.

The research was conducted at HumRRO Division No. 5, Fort Bliss, Texas, where Dr. Albert L. Kubala is Director. Military support was provided by the U.S. Army Air Defense Human Research Unit, of which LTC Frank R. Husted is the military chief.

Dr. William H. Melching and Dr. Paul G. Whitmore participated jointly in the planning and conduct of the research, and Dr. David Orme-Johnson assisted in the analysis of the data and preparation of the report. Sp5 William J. Given of the Air Defense Human Research Unit also assisted in the conduct of the research and in the analysis of the data.

HumRRO research for the Department of the Army is conducted under Contract DAHC 19-73-C-0004. Army Training Research is performed under Army Project 2Q(62107A745.

Meredith P. Crawford
President
Human Resources Research Organization



## SUMMARY AND CONCLUSIONS

#### **MILITARY PROBLEM**

The adoption of new admission standards for the Army has led to an increase in the proportion of enlisted men who do not meet the minimally desirable education level of high school or its equivalent. A relatively high proportion of these men are believed to prefer a military career, but their full potential cannot be realized unless they are provided supplementary educational experiences. Educational programs for these men should provide immediate and continuing benefits in the performance of their military duties and in the management of their personal affairs.

#### RESEARCH OBJECTIVE

The objective of this research was to determine the feasibility of developing a functionally oriented General Educational Development (GED) program. As a first step, it was necessary to acquire basic information about the capabilities, skills, and attitudes currently possessed by undereducated men.

#### RESEARCH APPROACH

To obtain information about possible problems unique to undereducated men, and to obtain information about possible lack of capabilities in such men, a special Achievement Test/Attitude Questionnaire was devised and administered to a sample of enlisted men. The instrument was used to assess both attitudes and skills men possessed for coping with financial, health, insurance, legal, and interpersonal problems.

The subjects were 770 men of the 1st AIT Brigade (Air Defense) Fort Bliss, most of whom were in their first term of enlistment. Men who took the test ranged in education level from less than 8 years to over 16 years.

#### **RESULTS**

With respect to the Achievement Test, men at higher-education levels performed significantly better than men with less education. Scores for groups ranged from 71% to 85%. High school dropouts (education level 9-11 years) consistently scored lower than all other levels, including men whose education level was eight years or less. While some items revealed sizable differences in scores as a function of formal education level, the overall differences between best and worst group performance was relatively small (about 13%).

When Attitude Scale items were categorized according to whether they reflected "good" vs. "poor" attitudes in men, the percentage of poor attitudes decreased with education level. Correspondingly, the percentage of good attitudes increased with higher education level.

The results showed a strong correlation between errors on the Achievement Test and percentage of poor attitudes. The only exception was the grade school group (education level 0-8), which made fewer errors on the Achievement Test than the high school dropout group (education is rel 9-11) and had a lower percentage of poor attitudes.



## **CONCLUSION**

The rather consistent tendency for level of achievement in practical knowledge and percentage of good attitudes to increase with education level suggests that undereducated men would be likely to benefit most from a functionally oriented GED program. However, since the difference between best and worst performance was small, it seems apparent that the practical knowledge covered by the questionnaire has not been systematically taught in primary and secondary education institutions. For that reason, a GED program directed at all education levels would seem to be defensible.

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Relationship of Education Level to Capabilities and Attitudes of Young Enlisted Men



#### INTRODUCTION

## MILITARY PROBLEM

The adoption of new and lower admission standards for the Army has increased the proportion of enlisted men who do not meet the minimally desirable educational standards (12th grade or equivalent for enlisted men). While a relatively high proportion of these men may prefer a military career, it is acknowledged that their full potential cannot be realized unless they are provided supplementary educational experiences. Educational programs for these men should provide immediate and continuing benefits in the performance of their military duties and in the management of their personal affairs.

#### RESEARCH PROBLEM

The objective of this research was to determine the feasibility of developing a functionally oriented General Educational Development (GED) program. To consider the feasibility of such a program, it was deemed necessary, first, to acquire some basic information about the target population. Particular interest focused upon skills and capabilities not currently possessed by undereducated men, but which might enable them to be better "adjusted," whether in or out of the Army; kinds of problems (legal, financial, interpersonal, social, etc.) commonly faced by such men; plus other deficiencies in practical knowledge. With information on the extent and nature of such deficiencies, a more effective (i.e., more functional) GED program could be constructed.

#### **METHOD**

#### **APPROACH**

A number of meetings were held with GED personnel at the Education Center, Fort Bliss, Texas to obtain pertinent and timely information about the Army's existing GED program. Visits were also made to the Office of the Staff Judge Advocate, Provost Marshal, Center Chaplain, and Mental Hygiene Consultation Service at Fort Bliss to obtain information about the kinds of problems experienced by undereducated men.

The research staff reviewed various documents and reports provided by these offices, but the information was incomplete and the results inconclusive. A definitive description of undereducated men was still not available.

A pilot survey conducted by the Post Education Center at Fort Bliss indicated that, as of 31 August 1970, of 9,448 enlisted men for whom records were available, 14.4% had not attained at least a 12th grade level of education. However, these men were assigned to numerous duty stations on the post and they varied widely in terms of age, rank, length of service, and so forth. Therefore, it was judged not feasible to locate and interview a representative sample of undereducated men.

In light of these difficulties, it was decided to seek information about capabilities and problems of undereducated men through the use of a specially constructed questionnaire. Accordingly, a request for a sample of 1,000 enlisted men was initiated



through the U.S. Army Defense Center, Fort Bliss. It was asked that these personnel be in their first term of enlistment and, ideally, undergoing basic or advanced individual training.

Members of the 1st AIT Brigade (Air Defense), Fort Bliss, were designated to serve as subjects. The questionnaire was administered to 770 men of the Brigade on 2 April 1971.

The questionnaire consisted of two parts, Achievement and Attitude. The Achievement Test contained 29 multiple-choice items designed to elicit information in the following areas:

- (1) Handling money
- (2) Insurance
- (3) Legal problems
- (4) Health matters
- (5) Buying things

The Achievement test items, grouped in these areas, are presented in Appendix A.

In an attempt to identify common social, financial, legal, and interpersonal problems, the second part of the questionnaire was constructed as an attitude scale that sought to explore the reactions of men toward several aspects of their lives. For each of 45 statements, men were asked to indicate whether they "Agreed," "Disagreed," or were "Undecided" in their reaction. The statements explored the following areas:

- (1) Relationship with supervisor
- (2) Relationship with family
- (3) Relationship with peers
- (4) Attitude toward salesmen
- (5) Attitude toward spending
- (6) Attitude toward getting help
- (7) Attitude toward personal health
- (8) Individual remonsibility

Items from the attitude portion of the questionnaire are presented in Appendix B.

To facilitate testing, the two parts were combined into a single instrument, and subsequently referred to as a "questionnaire." With respect to administration of the questionnaire, one restriction was imposed: Only first-term men were to be tested. It was believed that men in this category more closely represented the kinds of individuals most likely to benefit from a functionally oriented educational program.

#### **TESTING PROCEDURE**

Testing was scheduled in three separate sessions, all on the same day. The numbers of men tested at the three sessions were, 347, 213, and 210.

After each group entered the testing room, a staff meraber explained briefly the purpose of the questionnaire and then reviewed with the men the specific instructions for completing it. Prior to beginning the questionnaire, the men were asked to give their rank and months in service on the answer sheet. The first three items of the achievement portion of the questionnaire asked the men to supply information on education level attained, age, and race or ethnic group.

One man answered the achievement test portion of the questionnaire by selecting more than one alternative to many items. Thus, it was necessary to discard his record, reducing the total number to 769. Also, although only first-term men had been desired, several men with over three years of military service answered the questionnaire. However, since none had a rank higher than E4, their records were not removed.



#### **RESULTS**

## **DESCRIPTION OF THE SAMPLE**

A brief description of the men who answered the questionnaire is given in Table 1. For convenience, men were designated as belonging to one of five education levels. The table shows that 177 men were undereducated, that is, had not attained 12 years of formal schooling.

Table 1

Description of Men by Education Level

	•			
ducation Level (Years)	N	Mean Number of Months in Service	Number of Men in Each Rank	Mean Age <sup>a</sup>
0-8	30	3.1	E1·12 E2·17 E3· 0 E4· 1	19.4
9-11	147	5.8	E1-70 E2-60 E3- 6 E4-11	19.1
12 <sup>b</sup>	361	5.1	E1-109 E2-208 E3-27 E4-16	19.5
13-15	176	4.7	E1-35 E2-120 E3-18 E4- 3	20.4
16-16-	55	3.8	E1- 5 E2-27 E3-23 E4- 0	21.0

<sup>&</sup>lt;sup>a</sup>The highest alternative for age on the test was "21 or over"; therefore, the mean age for each group is somewhat underestimated.

#### **ACHIEVEMENT TEST**

The Achievement Test for each man was scored. Then, to obtain an overall picture of the performance of men on each item in the test, a matrix of test items by education levels was constructed (29 test items x 5 education levels). The 'abulation of frequencies in this matrix revealed two items on which performance was extremely poor. After examining the kinds of answers men selected for the items, it was decided that both items were misleading and should be deleted from the test, thus reducing the Achievement Test from 29 items to 27.



bOne man at this education level failed to denote his rank or months in service.

The mean performance of men in the five education levels on the 27 test items is shown in Table 2.

Performance of Men on Achievement Test

Education Level	N	Mean Number Correct	Percent Correct
0-8	30	20.3	75.1
9-11	147	19,4	71.7
12	361	21.0	77.7
13-15	176	22.1	81.7
16-16+	55	23.1	85.4

With the exception of the performance of men in the 9-11 education level, increased test score appears to accompany increased education level. The difference between groups, however, was not striking. The average college graduate scored only 10% higher than the man with an education level of grade school or less. Considering that the items tested the minimal basic information that everyone should know to get along well, all men might benefit from a GED course focused on such information.

To determine whether there was a significant relationship between education level and score on the Achievement Test, the distribution of frequencies was subjected to a chi square test. The observed frequencies were cast into a 5 x 5 contingency table (Table 3). To avoid having cells with zero frequencies, it was necessary to group scores in this fashion. In addition, to preserve meaningfulness of the grouped score categories, it was necessary to eliminate test scores of 12 or below. This removed all cells with zero frequencies except one, and reduced the total N from 769 to 757. Table 3 shows the observed frequencies for the resulting matrix.

Table 3

Grouped Distribution of Scores by Education Level

Score		E	ducation Lev	el		
Score	0-8	9-11	12	13-15	16-16+	Total
13-15	3	17	13	1	0	34
16-18	5	36	47	12	2	102
19-21	11	48	116	42	9	226
22-24	8	42	148	91	30	319
25-27	3	1	31	27	14	76
Total	30	144	355	173	55	757

The chi square obtained was 104.6. With 16 degrees of freedom, this value is significant at p < .001. The null hypothesis that the two criteria of classification are independent is therefore rejected, leading to the conclusion that higher-educated men do significantly better than lower-educated men. The correlation, expressed by a contingency coefficient, between education level and achievement score is C = .35.



A detailed analysis of the clusters of achievement items was undertaken to identify particular deficiencies in practical knowledge. Figure 1 shows the percent of errors for each of the clusters of items from the achievement test. For each area, Figure 1 shows that the greater the educational achievement, the fewer the errors, with the exception of the grade school group (A), which consistently showed fewer errors than the high school dropouts (B). The finding that high school dropouts did most poorly suggests that this group represents individuals with true academic problems, whereas the men with grade school education or less (A) may represent individuals who had to leave school for non-academic reasons (e.g., to help support a family).

Figure 1 shows that college graduates (E) made the least errors in all areas, that high school dropouts (B) made the most errors in all areas, and that men with grade-school education (A) not only did better than high school dropouts, but also did as well or

slightly better than high school graduates on health and money items.

An examination of the number of errors in each area shows that all the men did poorly on insurance items and relatively well on health items. Also, the difference between the highest and lowest groups on insurance items and health items was relatively small (10.5% difference on insurance, 8.1% on health).

The greatest difference was between high school dropouts and college graduates, and this difference was greatest for money items (16.9% difference) and for buying (16.4% difference). This result may reflect a difference in the socioeconomic background of the two groups. The college graduate group had a significantly greater proportion of whites than the high school dropout group ( $\chi^2 = 4.7$ , df = 11, p < .05). Since whites generally are in a higher economic bracket than non-whites, they probably have a greater opportunity to learn about such things as banking and finance from their parents. College graduates coming from higher income brackets presumably have more opportunity to learn about money matters.

The percentage of errors for each content area by educational group that went into the makeup of Figure 1 can be seen in Table 4. Note that the scores of men in two areas (money and health) are based on only three and two items, respectively. Each of these areas had been reduced by one when the total number of items was reduced from 29 to 27.

Table 4

Number and Percent of Errors on Achievement Test by Item Areas

Education Level						Areas					
	N	N Money (3 items)		Insurance (6 items)			Legal (6 items)		alth tems)	Buying (10 items)	
		No.	%	No.	%	No.	%	No.	*	No.	%
8-0 A	30	15	16.7	63	35.0	38	21.1	2	3.3	84	28.0
B 9-11	147	104	23.6	333	37.8	219	24.8	29	9.9	437	29.7
C 12	361	191	17.6	674	31.1	423	19.5	46	6.4	842	23.3
D 13-15	176	59	11.2	293	27.7	164	15.5	20	5.7	333	18.9
E 16-16+	55	11	6.7	90	27.3	40	12.1	2	1.8	73	13.3
Mean %			15.1		31.8		18.6		5.4		22.6
Percent diffe	rence,										
B – E			16.9		10.5		12.7		8.1		16.4

Percent Errors on the Achievement Test as a Function of Education Level and Type of Item

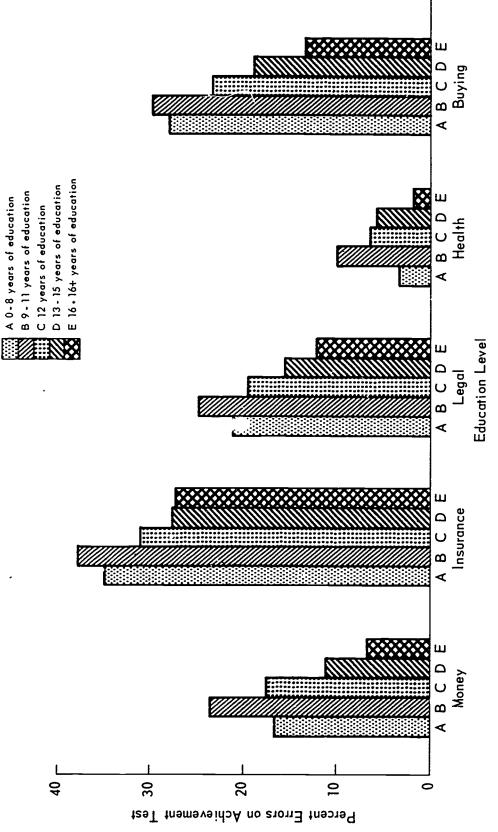


Figure 1

A detailed item analysis revealed some particular deficiencies in practical knowledge. The highest and lowest percent errors are reported. For example, between 76% (high school dropouts) and 70% (college graduates) didn't know what comprehensive automobile insurance was (item 22). Over 65% of high school dropouts and over 31% of college graduates didn't know the difference between collision insurance and liability insurance (item 31), and between 40% (grade school) and 14% (college graduates) couldn't distinguish between liability, term, hospitalization, and fire and theft insurance (item 11). Over 56% (grade school) and 40% (college graduates) didn't know that they should have a repairman contact them if something is found wrong that was not included in an original estimate of the cost of work (item 13). Over 53% (high school dropouts) and 29% (college graduates) didn't know what signs to look for when buying a car (item 18).

Over 42% of high school dropouts and 7% college graduates didn't know about different kinds of bank accounts (savings, checking, Christmas Club; item 26). This item reveals a great disparity between educational groups and knowledge of handling money. Between 57% (grade school) and 27% (college graduates) didn't know the function of a small claims court (item 8), and between 42% (high school dropouts) and 33% (grade school) didn't know the function of the Legal Aid Society (item 11).

These items represent minimal basic knowledges a person should have, and the poor performance of the subjects on these items indicates the need for a special education program.

## ATTITUDE SCALE

In order to evaluate results from the Attitude Scale, it was necessary to establish some criterion for discriminating between good vs. poor attitudes. To solve this problem, five raters independently checked the answers that they felt indicated the best attitude in terms of being most supportive to a relationship or specific behavior as indicated by the item. The five raters were four Ph.D. psychologists and an enlisted man who holds a B.A. in psychology and has completed some graduate work in the subject.

Raters were asked not to indicate their personal attitude but to choose what they felt was the ideal attitude. Only items for which there was 100% agreement among the five raters were used in the evaluation of good vs. poor attitude. Seven items were thus deleted from the scale (Items 20 and 24 from Relationship With Supervisors, 4 and 11 from Relationship With Peers, 8 from Attitude Toward Spending, and 14 and 29 from Attitude Toward Personal Health). This left 38 items in the scale for which there was 100% agreement among raters as to the best attitude.

The analysis of good and poor attitudes for each education level for the overall attitude scale (except for items from the cluster, Attitude Toward Salesmen) is shown in Figure 2. The high school dropouts, who did most poorly on the Achievement Test, responded with the highest percentage of poor attitudes. Figure 2 shows that, generally, the percentage of poor attitudes decreases with educational level and good attitudes increase with more education. The exception is the 0-8 year group, which scored relatively high on good attitudes and low on poor attitudes. (It is necessary to look at both good and poor attitudes because of the third category, "Undecided," which makes the percentage of good and poor attitudes not strictly complementary). Thus, generally speaking, the more education a man has, the better his attitude.

<sup>&</sup>lt;sup>1</sup>See Appendix B for Attitude Scale items and the answers that were rated as indicative of a good attitude or relationship.

Percent of Subjects in Each Education Level Showing Good and Poor Attitudes Based on the Entire Attitude Scale

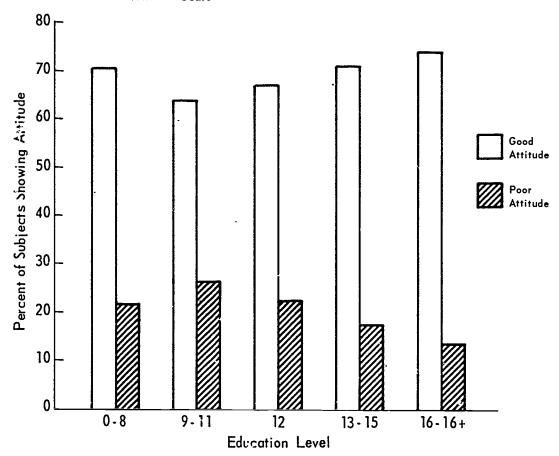


Figure 2

To determine which items, if any, showed significant relationships between education level and attitude, a matrix of education level and attitude (5 x 3 contingency table) was formed for each item. With eight degrees of freedom, the chi square value must reach 20.9 to establish significant correlation (p < .01) between education level and attitude for an item. This value of chi square was reached or exceeded on 11 items. These items are listed in Table 5 along with their respective chi squares and contingency coefficients.

A comparison of the mean percent of responses rated as poor attitude and the mean percent of errors on the Achievement Test for each educational group is shown in Figure 3. The mean are based upon the entire scales, and they show a remarkable correlation between the two sections of the questionnaire. Errors on the Achievement Test and poor attitudes from the Attitude Scale are highly correlated with the percentage of poor attitudes and errors decreasing with increasing educational levels. Again, the exception is the grade school group, which was lower than high school dropouts on both errors and poor attitudes.

There are three possible interpretations of this correlation: (a) poor attitude causes poor achievement, (b) poor achievement causes poor attitude, or (c) both attitude and achievement items reflect a common source of variance. The researchers favor the

Table 5
Items Showing Relationship Between
Education Level and Attitude

Area and Item	Chi Square	Contingency Coefficient
Attitude Toward Spending	_	
8	32.6	.20
18	21.6	.17
42	23.5	.17
Relationship With Peers		
10	27.5	.19
34 <sub>.</sub>	24.4	.18
38	25.6	.17
Attitude Toward Getting Help		
12	48.1	.24
Attitude Toward Personal Help		
25	20.3	.16
41	21.6	.17
Relationship With Family		
28	28.4	.19
Individual Responsibility		
44	24.4	.18

# Comparison of Mean Percent Poor Attitude and Mean Percent Errors on Achievement for Each Education Level

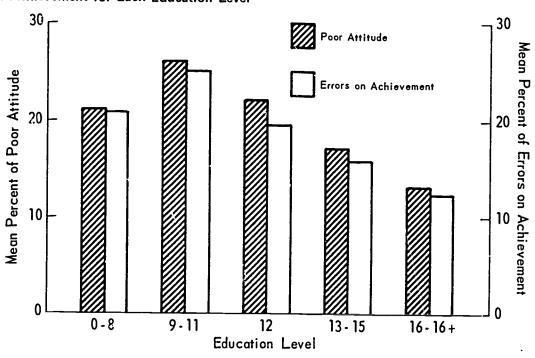


Figure 3

interpretation that both reflect a common source of variance, which is practical knowledge. The achievement items, by definition, reflect practical knowledge, and a close examination of the Attitude Scale reveals that attitudes rated poor also reflect a low level of practical knowledge.

For example, the answer "Agree" was rated as indicating a poor attitude to "Medical insurance is useless" (item 25) and to "I would not go to a dentist unless I had a toothache" (item 41). Agreeing with these items reflects an ignorance of the function of medical insurance and preventive dentistry. The subject who agrees to "...borrow money even if it meant...[paying] high interest" (item 15) or who prefers a loan company to a bank (item 18) is showing ignorance of interest rates. A subject who sneaks out the back door rather than help his father (item 28), hits a friend who makes a joke about him (item 10), or ignores his date because he doesn't like her (item 34), is showing ignorance of how to get along smoothly in social relationships (see Appendix B).

This interpretation of the Attitude Scale—that it reflects practical knowledge—reinforces the findings from the Achievement Test that educational level is correlated with practical knowledge, and that all groups could benefit by a course in practical matters.

The relationship between educational level and attitude in each attitude area (Relationship With Supervisor, Relationship With Family, Relationship With Peers, Attitude Toward Salesmen, Attitude Toward Spending, Attitude Toward Getting Help, Attitude Toward Personal Health, and Individual Responsibility) reflects the general relationship seen in Figure 2, that attitude improved with educational level.

Table 6 shows the percentage of good, poor, and undecided responses averaged for each cluster of items (Relationship With Supervisor, Relationship With Family, etc.). The college graduates (16-16+) score highest in percent of good attitudes in most areas, and they generally score lowest in percentage of poor attitudes. On the other hand, high school dropouts generally score lowest in percentage of good attitudes and highest in percentage of poor attitudes.

Table 6

Percent of Good and Poor Attitudes
for Each Attitude Area by Education Level

							Educ	ation l	_evel				_		
Attitude Areas	0.8		9-11				12		13-15			16-1 <del>6+</del>			
	Good	Poor	Un <sup>a</sup>	Good	Poor	Un	Good	Poor	Un	Good	Poor	Un	Good	Poor	Un
Supervisor	70.0	23.3	6.6	55.5	36.3	8.2	64.3	25.5	10.2	66.2	22.3	11.4	76.4	10.9	12.7
Family	76.7	15.8	7.5	69.2	19.0	11.8	71.9	17.2	10.9	77.9	10.9	11.3	78.2	11.4	10.5
Peers	69.7	19.0	11.3	61.2	26.9	11.8	64.7	21.2	14.0	67.9	18.7	13.4	70.2	16.5	13.3
Salesmen	15.0	73.3	11.7	20.9	69.5	9.6	22.0	67.5	10.5	21.4	70.0	8.6	14.5	77.3	8.2
Spending	63.9	28.9	7.2	56.0	32.5	11.4	60.0	28.6	11.4	60.9	26.6	12.6	74.5	18.8	6.7
Help	60.0	34.4	5.6	67.4	22.4	10.3	67.7	22.2	10.2	73.5	16.2	10.3	78.8	14.5	6.7
Health	78.7	17.3	4.0	76.3	19.9	3.8	76.6	17.7	5.7	84.7	11.4	3.9	90.2	7.3	2.5
Responsibility	75.7	14.3	10.0	62.5	28.6	8.9	65.1	25.0	9.9	67.4	20.7	11.8	73.2	16.6	10.1
Mean Percent	70.6	21.9	7.5	64.0	26.5	9.5	67.2	22.5	10.3	71.2	17.8	10.7	77:4	13.7	8.9

<sup>&</sup>lt;sup>a</sup>Un ≖ Undecided



The relationship between attitude and educational level can be seen more clearly in Tables 7 and 8 which present the data from Table 6 in rank order. Table 7 shows that college graduates ranked the highest (1) in percentage of good attitudes in all areas except Responsibility, on which they ranked second, and except for Attitude Toward Salesmen, in which they ranked lowest. All groups exhibited poor attitudes towards salesmen.

Table 7

Rank<sup>a</sup> Order of Good Attitudes

Attitude	Education Level								
Areas	0-8	9-11	12	13-15	16-16+				
Supervisors	2	5	4	3	1				
Family	3	5	4	2	1				
Peers	2	5	4	3	1				
Salesmen	4	3	1	2	5				
Spending	2	5	4	3	1				
Help	5	4	3	2	1				
Health	3	5	4	2	1				
Responsibility	1	5	4	3	2				

<sup>a</sup>1 is highest percentage of good attitude, 5 is lowest percentage of good attitude.

Table 8

Rank<sup>a</sup> Order of Poor Attitudes

Attitude	Education Level								
Areas	8-0	9-11	12	13-15	16-16+				
Supervisors	3	1	2	4	5				
Family	3	1	2	5	4				
Peers	3	1	2	4	5				
Salesmen	2	4	5	3	1				
Spending	2	1	3	4	5				
Help	1	2	3	4	5				
Health	3	1	2	4	5				
Responsibility	5	1	2	2	4				

<sup>a</sup>1 is highest percentage of poor attitude; 5 is lowest percentage of poor attitude.

The grade school (0-8 years) group generally ranked favorably on good attitudes, except in the area of Asking for Help, in which they ranked lowest. There was a perfect correlation between attitude towards Asking for Help and educational level. The more the education, the more likely a person would be to get a lawyer when needed, know how to handle legal problems, and ask his boss for help (see items 9, 12, and 13, Appendix B). This indicates that the undereducated man does not use the available resources for handling legal problems, possibly because he does not have the necessary knowledge (see Figure 1, achievement on legal items). This result suggests the desirability of a training program that includes practical information such as how to obtain a lawyer, where to go for legal aid, or how to read leases or contracts.

Table 7 also shows that the grave school group (0-8) scored highest on individual responsibility, even though they were reluctant to ask for help. The high school dropouts (9-11) showed the least individual responsibility, and individual responsibility generally increased with education level.

Some interesting correlations between areas of achievement and areas of attitude can be seen by comparing Table 6 and Figure 1. Table 6 shows that all subjects had their highest percentages of good attitudes in the personal health area, which complements the findings that achievement was highest on health items (see Figure 1).

Table 8 shows that high school dropouts had the poorest attitude toward spending, which correlates with the finding that they made the most errors on money items on the Achievement Test (see Figure 1). Thus, the sub-areas of the two sections of the questionnaire are correlated as well as total scores for the two main sections, Achievement and Attitude.

#### DISCUSSION

The questionnaire results show that the level of achievement in practical knowledge and percentage of good attitudes generally increase with the educational level. This suggests that undereducated men could benefit most from a functional GED program. However, the percentage of difference between performance of college graduates and undereducated men is small (about 13%), suggesting that the practical knowledge covered by the questionnaire is not systematically taught in the public schools or colleges.

Also, the material covered by the questionnaire represents minimal basic information every man should have, and no group did outstandingly well, with scores ranging from 85% for college graduates to 71% for high school dropouts. This suggests that, while the men tested did possess appreciable proportions of the basic information every adult should have, there were, typically, knowledge flaws that when corrected would be expected to improve their functioning in society. Therefore, a GED program covering practical problems incurred in handling money, buying things, buying insurance, handling legal problems, getting help, and in getting along with other individuals would be beneficial for every man going into the Army.

Content material for such a course is readily available from a variety of governmental and commercial sources. For example, the course might be based upon Consumers All, one of the yearbooks of The Department of Agriculture.<sup>2</sup> The book covers a wide variety of practical topics, including the following:

Finances—owning and renting, mortgages, installment credit, the family budget, insurance, medical bills, savings on cars, the employed wife, etc.

Safeguards—motor accidents, fire protection, household insects, health care, health services, welfare services, help in disaster, help in nutrition.

Welfare Services—where to go for vocational counseling, financing, personal problems, adoptions: where to get help for such everyday problems as dog bites, food poisoning, lost children, rescue of animals; names and addresses of agencies for children's services, employment, family counseling, federal insurance programs, financial assistance, and legal advice; agencies for organized leisure time and for formal education programs, services to unmarried parents, temporary shelter, and so forth.

Topics covered in other sections of the book include Houses, Furnishings, Equipment, Plants, Outdoor Activities, Clothing, and Food. Many tables, charts, and drawings are included.

Various types of material suited to providing young men with needed information in the area of consumer education are available from commercial sources. Some such publications can be obtained in the form of self-instructional kits, focusing on such areas as food, clothing, cars, furniture, the law, family health, ways to handle money, endorsing checks, balancing bank statements, buying life insurance, improving communications in marriage, and so forth. Among the many publishers who issue such materials are Grolier Educational Corporation ("Modern Consumer Education"), Entelek Incorporated ("Checks and Endorsements"), and Doubleday & Company ("Your Life Insurance").

Another example of the type of publication that is readily available for adaptation or source material for a GED program on practical problems is An



<sup>&</sup>lt;sup>2</sup>Consumers All, the Yearbook of Agriculture 1965, Department of Agriculture, Washington, D.C., 1965.

<sup>&</sup>lt;sup>3</sup>Citations are given as examples only. This does not reflect official endorsement by HumRRO or the Department of the Army

Instructional Program for Employability Orientation.<sup>4</sup> This handbook, developed for the Department of Labor by the Human Resources Research Organization, was written to provide help to personnel responsible for developing programs of instruction for Work Incentive Program (WIN) orientation training—the portion of the training dealing with general employer lity and socioeconomic adaptation to society, rather than with specific job skills.

Part I of the handbook deals with determining the curriculum and provides materials for use by a program manager in determining and planning the kinds of instruction that will be needed to meet the needs of the trainee population.

Part II deals with developing instructional content and provides materials for use by classroom instructors or other personnel involved in developing detailed lesson plans. The materials are presented in the form of modules dealing with 18 major topics, including such subjects as Health, Money Management, Community Resources, Job Searching, Job Interviewing, and Employee Relations.

The volume includes many checklists and tests for use in determining the content that would be appropriate for particular trainee categories or judging the effectiveness of training given. Also included in each module are extensive lists of references for additional materials that would be useful in developing training on the topics.

<sup>&</sup>lt;sup>4</sup> William C. Osborn et al. An Instructional Program for Employability Orientation, HumRRO Technical Report 72-4, February 1972.

## Appendix A

QUESTIONNAIRE: ACHIEVEMENT TEST

These are the instructions and items from the Achievement Test portion of the questionnaire. Items are arranged in clusters by achievement areas. The number preceding each item indicates its serial position in the actual questionnaire.



Questionnaire: Achievement Test

## **INSTRUCTIONS**

This questionnaire contains several questions and statements. These questions pertain to things that may be pertinent to your life both before and since you entered the Army. The questionnaire is being given to soldiers as part of a HumRRO research project. Your answers will be used for research purposes only, and they will have absolutely no effect upon your position in the Army.

The questionnaire is in two parts.

In Part I, read each question and statement and decide which answer seems best. When you have chosen your answer, use the answer sheet to indicate your choice. Circle the letter on the answer sheet that corresponds to the answer you chose. If you change your mind, erase your first answer completely.

You will find instructions for Part II inside the questionnaire.

There is no time limit in which you must complete the questionnaire, but it should take no more than 30 minutes or so.

Please make no marks on the questionnaire. Place all answers on the answer sheet.



#### Achievement Test (Part I) 27 items

## **Background Information**

- 1. How many years of education have you had?
  - A. 0-8
  - B. 9-11
  - C. 12
  - D. 13-15
  - E. 16 or more
- 2. How old are you?
  - A. 17
  - B. 18
  - C. 19
  - D. 20
  - E. 21 or over
- 3. What is your race or ethnic group?
  - A. White
  - B. Black
  - C. Oriental
  - D. American Indian
  - E. Spanish surname
  - F. Other

#### **Handling Money**

- 4. A checking account at the bank is probably best used for things like
  - A. Very large expenditures only.
  - B. Paying bills and making purchases.
  - C. Getting interest.
- 16. You decide to put \$500 in the savings account. You leave it there for a year. What would you expect to have in the account at the end of this year?
  - A. You would expect another \$500.
  - B. You would expect to have \$500 plus the interest.
  - C. You would have \$500 minus the interest.
  - D. You would have \$500 less a service charge.
- 26. You have some money that you want to put in the bank. Which kind of account would cost you money?
  - A. Savings account.
  - B. Checking account.
  - C. Christmas Club.
  - D. All of the above would cost you money.

#### Insurance

- 5. Suppose you worked for a company that has a group life insurance plan.
  - A. The plar, would probably cost less than if you bought your own policy.
  - B. The plan would probably cost more than if you bought your own policy.
- 9. You are married and in the Army. You want to buy some insurance that will pay medical benefits if your wife has a baby after you get out of the Army. You should
  - A. Get the insurance after you get out of the Army.
  - B. Don't get any insurance because your wife may not get pregnant.
  - C. Wait until your wife gets pregnant.
  - D. Unless you have at least a year left in the Army, get the insurance as soon as possible since most insurance companies have a waiting period before this kind of insurance pays any benefits.
- 14. You want to buy some insurance that will protect you against the loss of your own property. You should buy
  - A. Liability insurance.
  - B. Term insurance.
  - C. Hospitalization.
  - D. Fire and theft insurance.
- 15. A group life insurance plan with your company
  - A. Is always better than if you bought your own policy.
  - B. Is generally good only while you are employed by the company.
- 22. You have comprehensive insurance on your car. This means that
  - A. The insurance will pay for damage to your car if it is in an accident with another car.
  - B. The insurance will pay your hospital bill.
  - C. The insurance will pay for damage to your car caused by a fire or hurricane.
- 31. You own a 1957 Chevrolet that is worth about \$100.
  - A. You should definitely get collision insurance.
  - B. You should carry no insurance at all.
  - C. It wouldn't be worth it to you to carry collision insurance.
  - D. In this case, you shouldn't carry any liability insurance.

## **Legal Problems**

- 6. Don has been arrested. He gives his name and address, but he refuses to answer any other questions until he can see his lawyer. Does he have the legal right to do this?
  - A. Only if it is a minor crime.
  - B. Yes.
  - C. No.
  - D. Only if he has been subjected to police brutality.
- 7. You are living in an apartment and have a lease which says that no more than three people may stay with you in your apartment. However, you have four people living with you. What can happen?
  - A. The landlord can not legally evict you.
  - B. The landlord can evict you.
  - C. The landlord would probably double your rent.



- 8. You loaned a friend \$75, but he refused to pay you. What should you do?
  - A. Forget the whole thing.
  - B. Have him arrested.
  - C. Sue him in small claims court.
  - D. Beat him up and take the money.
- 11. Which of the following problems can The Legal Aid Society probably help you with?
  - A. You want to sue someone for defamation of character.
  - B. You're having trouble at a finance company.
  - C. You've been arrested for stealing.
- 21. Suppose you buy a motorcycle on credit. You've been sick and couldn't work. Therefore, you couldn't make the payments. The store took the motorcycle back.
  - A. This is called garnishment and is legal.
  - B. This is called repossession and is legal.
  - C. This is unfair since you missed the payments through no fault of your own.
- 25. Suppose you were living in an apartment and you wanted to put in a washer and dryer which would require new wiring.
  - A. It would be all right to go ahead and have it done.
  - B. You should get the landlord's permission.

#### **Health Matters**

- 28. A man comes to your door claiming to be a doctor. He has a machine he wants to sell you. This machine can cure any rease—heart trouble and cancer, for example. This doctor is probably
  - A. A good doctor.
  - B. A quack.
  - C. A medical student.
  - D. He has a good machine but can't get anybody to believe him.
- 32. You have the flu, but you feel too bad to go to the doctor. Your wife had the same illness about a year ago and still has some of the pills that the doctor prescribed for her.
  - A. It would be all right to take some of her pills, since it was the same illness.
  - B. You should go to the doctor.
  - C. Take twice the dosage recommended for her since the pills are old.

#### **Buying Things**

- 10. You usually buy a highly advertised brand of headache tablets at your druggist's. One day the druggist tells you that he has a cheaper brand, but you have never heard of this brand. You ask the druggist which is the better for a headache. The druggist would probably reply
  - A. They're both about the same
  - B. The highly advertised brand is much better, but the price isn't worth it.
  - C. The cheap brand is by far the better.
- 12. You want to buy a sports jacket in a clothing store and the salesman says that it has double stitching. This means
  - The jacket has good tailoring.
  - B. The material is bad and had to be sewn twice.
  - C. The jacket has bad tailoring.
  - D. It is probably a cheaper brand.



- 13. Suppose you take your stereo to the shop for repairs, and you get an estimate of \$20. The repairman says that he'll fix anything else that's wrong with it. What should you do? Read all answers before selecting.
  - A. Tell him that \$20 is the limit; don't do anything that costs more than that.
  - B. It's okay to fix whatever's wrong with the set.
  - C. Tell him to call you if he finds anything else wrong with it.
  - D. Both A and C.
- 17. You have a 3-year-old automobile that needs repairs. What is probably your best bet for finding a good repairman?
  - A. A small garage that has given you lots of good work in the past.
  - B. An authorized garage, even if you don't know anything about their work.
  - C. Look up garages in the phone book.
  - D. Buy a manual and try the repair work yourself, even if you don't know much about repairing cars.
- 18. You want to buy a used car. When you push up and down on the fender, the car keeps rocking several times, even after you've stopped. This is probably (Read all answers before selecting)
  - A. A good sign.
  - B. A bad sign.
  - C. A sign that the shock absorbers need replacing.
  - D. Both B and C.
- 19. You want to buy a bathing suit that is labeled "Preshrunk." This means:
  - A. It will shrink when you go swimming.
  - B. It will shrink when it is washed and dried.
  - C. It will shrink very little, if at all.
- 20. Someone in your family dies, and you have to make all the funeral arrangements. You choose a marker, and it is probably
  - A. More expensive than a tombstone.
  - B. About the same as a tombstone.
  - C. Less expensive than a tombstone.
- 24. Suppose you were shopping for some canned food in a grocery store. Which would probably cost you less?
  - A. A nationally advertised brand.
  - B. A brand produced by the store (house brand).
- 27. At which food store would you probably pay less for groceries?
  - A. A local grocery store, privately owned.
  - B. A supermarket that is part of a chain of stores.
  - C. A small local store (it may be a chain store) that sells some food, magazines, etc.
- 29. You want to buy a car that is three years old and has 85,000 miles on it. This is
  - A. Less mileage than the average driver puts on his car.
  - B. About average mileage for a car that old.
  - C. More than the average driver puts on his car in three years.
  - D. I'm not sure if it's average, below average or above average mileage.



## (Deleted)

- 23. Suppose you share the expenses of an apartment with a friend and you pay only two bills every month, probably the phone bill and the gas bill. You would like to pay these bills by mail. Which would be the *cheapest* and the safest way to do this?
  - A. Pay the bills by check.
  - B. Pay by money order.
  - C. Send it in cash.
- 30. You are out of a job and broke. You go to a public hospital outpatient clinic for treatment. In general, will you have to pay for the treatment?
  - A. Yes.
  - B. No.



## Appendix B

QUESTIONNAIRE: ATTITUDE SCALE

Items from the Attitude Scale portion of the questionnaire are contained in this appendix. Items are arranged in clusters by areas. The numbers preceding each item indicate its serial position in the actual questionnaire. The abbreviations in the rating column mean: Ag = Agreed; Dis = Disagreed.



#### Attitude Scale (Part II) 45 items

Answer Rated as Indicative of a Good Attitude Relationship With Supervisor 1. If my supervisor asked me to do something like sweep the floor or unload a truck, and it wasn't part of my job, I wouldn't do it. Dis 20. If my boss makes a mistake, I'll tell him about it. (Deleted) 24. If a fellow worker was habitually tardy, I would tell our supervisor. (Deleted) Relationship With Family 2. If my parents asked me to take a couple of hours or so to clean the garage while I was home on leave, I'd do it. Ag 5. I would not insist on having the car if my brother or sister claimed they needed it. Ag 28. If my dad asks me to do something that I don't really want to do, I'll sneak out the back door if I can. Dis 40. If I had to choose between watching a baseball game on TV and helping my dad paint the house, I'd watch the game. Dis **Relationship With Peers** 3. I would not go on a blind date with a girl if I didn't like her after we met. Dis 4. If my buddies wanted to go to a movie and I wanted to do something else, I'd end up going with them. (Deleted) 7. I would not argue or get mad at a fellow worker unless I thought he was absolutely wrong about something. Ag 10. If a friend made a joke at my expense, I'd probably hit him. Dis 11. If a fellow worker didn't do his share, I'd be sure to tell him about it. (Deleted) 22. If I catch a mistake that a fellow worker had made, I'll tell the worker about it rather than our supervisor. Ag 33. If I had to choose between ratting on a close friend and taking the blame myself for some minor incident at work, I'd take the blame myself. Ag



	•	Answer Rated as Indicative of a Good Attitude
34.	If I find I don't like the girl I'm out with, I ignore her so she won't feel bad when I don't ask her out for another date.	Dis
35.	If I'm on a double date with my best friend, and I like his date better than mine, I'll try anything to take her away from him.	Dis
36.	If I have \$10 to spend on something I really want, and my best buddy asks to borrow \$5 "just till tomorrow," I'll tell him I don't have the money.	Dis
37.	If I have made a blind date with my friend's girlfriend's cousin, and I have the opportunity to go out with a real good looking girl I've been itching to date, I'll break the blind date.	Dis
38.	If a fellow worker got me in trouble for something I didn't do, I'd figure out a way to get him in trouble to pay him back.	Dis
	Attitude Toward Salesmen	
6.	I would make a loud complaint if I thought a salesman was trying to "pull a fast one" on me.	Dis
30.	I tend to doubt what a salesman tells me; I always want to see the written guarantee.	Dis
	Attitude Toward Spending	
8.	I would not buy something I really wanted if it meant I'd have to skimp on other things.	(Deleted)
15.	I would be willing to borrow money to get something I really wanted even if it meant I had to pay high interest.	Dis
16.	If I were going to make a large purchase on time, it wouldn't be worth it to me to pay extra money to insure the debt.	Dis
18.	If I wanted to borrow some money, I would rather go to a bank than $t \cap a$ loan company.	Ag
19.	When buying food, I always compare the weights as well as the prices of items.	Ag
27.	When the cashier at the grocery store is ringing up my purchases, I always watch carefully to make sure she makes no errors.	Ag
42.	If I was newly married and we needed to buy an appliance (like a stove or a refrigerator), I would insist on buying a new one.	Dis



Answer Rated as Indicative of a Good Attitude

## **Attitude Toward Getting Help**

9. I would not hesitate to get some help from a lawyer if I thought I needed it.

Ag

12. I would not know what to do if I got into "legal trouble."

Dis

13. If I had a personal problem I'd keep it to myself before I'd ask my boss for help.

Dis

#### Attitude Toward Personal Health

14. If I had to select and buy my own food, I'd know what things I should buy for my health's sake. (Deleted) 17. I would not bother to have my teeth checked unless I had a toothache. Dis 23. I think it's unnecessary to have your eyes checked except when they're bothering you. Dis 25. Medical insurance is useless; I never get sick. Dis 29. I would go to the doctor only if I was very sick. (Deleted) 32. If I felt real sick, I'd go to the drug store and buy a "home remedy" rather than pay for a doctor's visit and possibly an expensive prescription. Dis 41. I would not go to a dentist unless I had a toothache. Dis

## Individual Responsibility

21. If I find that there's too much money on my paycheck, I will notify the proper person. Αg 26. If I put a dent in the neighboring car while backing out of my parking space, I'll leave my name, address, and telephone number on a piece of paper under the windshield wiper so the person can get in touch with me. Ag 31. If a cashier gave me too much change, I'd tell him about it, no matter what the amount. Ag 39. If I wanted to leave on a Friday for a weekend trip, I'd call in sick at work. Dis 43. If I lost my driver's license, I would never borrow a friend's license. Ag 44. I would never lie about my age just so I could get cheaper insurance for my car. Ag 45. If I wanted to sell something I owned (like a radio or camera), and it

didn't work quite right, it would be all right not to tell the buyer.



Dis

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To obtain information about problems of adaptation common to undereducated men, and to obtain information about knowledges and skills such men may not have, an achievement test/attitude questionnaire was administered to a large group of enlisted men. The instrument was designed to assess men's attitudes and skills with respect to financial, health, insurance, legal, and interpersonal problems. Men who took the test ranged in education level from less than 8 years to over 16 years. Higher educated men performed significantly better on the achievement test than did lower educated men, but high school dropouts (education level 9-11 years) consistently scored lowest of all. When attitude scale items were categorized as reflecting good vs. poor attitudes, poor attitudes decreased as education level rose. The results showed a strong correlation between errors on the achievement test and percentage of poor attitudes. (Author)

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